

CLAIMS

1. An adhesive gel composition for iontophoretic formulations, comprising an ionic synthetic polymer(s), a nonionic synthetic polymer(s), a naturally-occurring polymer(s), a polyhydric alcohol(s), a crosslinking agent(s) and a drug(s).

2. The adhesive gel composition for iontophoretic formulations according to claim 1, wherein the amount of the ionic synthetic polymer(s) mixed is 0.1 to 3.0% by weight, the amount of the nonionic synthetic polymer(s) mixed is 0.5 to 30.0% by weight, the amount of the naturally-occurring polymer(s) mixed is 0.5 to 10.0% by weight and the amount of the polyhydric alcohol(s) mixed is 1.0 to 60.0% by weight.

3. The adhesive gel composition for iontophoretic formulations according to claim 1 or 2, wherein the composition (weight) of the mixture of the ionic synthetic polymer(s) (A), the nonionic synthetic polymer(s) (B) and the naturally-occurring polymer(s) (C) is such that

$$(B + C)/A \geq 1.5 \% \text{ by weight and/or } A + B + C \geq 7\% \text{ by weight.}$$

4. The adhesive gel composition for iontophoretic formulations according to any of claims 1 to 3, wherein the ionic synthetic polymer(s) is or are obtained by polymerizing polymerizable unsaturated monomers that have at least anionic functional groups.

5. The adhesive gel composition for iontophoretic formulations according to any of claims 1 to 4, wherein the ionic synthetic polymer(s) comprises one or more substances

selected from the group consisting of polyacrylic acid, partially neutralized polyacrylic acid, fully neutralized polyacrylic acid, methoxyethylene-maleic anhydride copolymer, methoxyethylene-maleic acid copolymer, isobutylene-maleic anhydride copolymer, isobutylene-maleic acid copolymer and carboxyvinyl polymer.

6. The adhesive gel composition for iontophoretic formulations according to any of claims 1 to 5, wherein the nonionic synthetic polymer(s) comprises one or more substances selected from the group consisting of polyvinyl alcohol, polyvinyl pyrrolidone and polyethylene oxide.

7. The adhesive gel composition for iontophoretic formulations according to any of claims 1 to 6, wherein the naturally-occurring polymer(s) comprises one or more substances selected from the group consisting of gelatin, carrageenan, locust bean gum, dextrin, carboxymethyl cellulose and the metallic salt of carboxymethyl cellulose.

8. The adhesive gel composition for iontophoretic formulations according to any of claims 1 to 7, wherein the polyhydric alcohol(s) is one, or are two or more selected from the group consisting of glycerin, polyethylene glycol, propylene glycol, D-sorbitol, xylitol, mannitol and erythritol.

9. The adhesive gel composition for iontophoretic formulations according to any of claims 1 to 8, wherein the crosslinking agent(s) is one, or are two or more selected from the group consisting of polyvalent metallic compounds,

polyfunctional epoxy compounds and boric acid-based compounds.

10. The adhesive gel composition for iontophoretic formulations according to any of claims 1 to 9, wherein the drug forms anions in the adhesive gel composition for iontophoretic formulations and can be delivered from the cathode side of the iontophoretic formulations.

11. The adhesive gel composition for iontophoretic formulations according to claim 10, wherein the drug(s) is(are) a water-soluble steroid hormone(s).

12. The adhesive gel composition for iontophoretic formulations according to claim 11, wherein the water-soluble steroid hormone(s) is one, or are two or more selected from the group consisting of dexamethasone sodium phosphate, dexamethasone sodium acetate, dexamethasone sodium metasulfonbenzoate, hydrocortisone sodium succinate, hydrocortisone sodium phosphate, prednisolone sodium succinate and betamethasone sodium phosphate.

13. The adhesive gel composition for iontophoretic formulations according to any of claims 1 to 12, wherein the composition has pH ranging from 4 to 9.

14. The adhesive gel composition for iontophoretic formulations according to any of claims 1 to 13, wherein oxygen dissolved in the gel is positively removed by replacement with nitrogen and/or vacuum kneading at the time the ingredients are added and kneaded.

15. A method for producing an adhesive gel composition for iontophoretic formulations, wherein oxygen dissolved in the

gel is positively removed by carrying out replacement with nitrogen and/or vacuum kneading at the time ingredients, including an ionic synthetic polymer(s), a nonionic synthetic polymer(s), a naturally-occurring polymer(s), a polyhydric alcohol(s), a crosslinking agent(s) and a drug(s), are mixed and kneaded.